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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------|-------------|----------------------|---------------------|------------------|
| 09/727,062 | 11/30/2000 | Paul W. Dent | 4015-721 | 2720 |
| 24112 | 7590 | 04/14/2006 | EXAMINER | |
| COATS & BENNETT, PLLC | | | POLTORAK, PIOTR | |
| P O BOX 5 | | | ART UNIT | |
| RALEIGH, NC 27602 | | | PAPER NUMBER | |
| | | | 2134 | |

DATE MAILED: 04/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/727,062 | DENT, PAUL W. | |
| | Examiner | Art Unit | |
| | Peter Poltorak | 2134 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-12,14,15,17,18 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-12,14,15,17,18 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Amendment, and remarks therein, received on 1/25/06 have been entered and carefully considered.
2. The Amendment introduces new limitations into the originally sole independent claims 1 and 11 and dependent claims 3-5, 7-10, 14-15 and 17-18 and 20. Claims 6, 13, 16, 19 and 21 have been cancelled.

The newly introduced limitation has required a new search and consideration of the pending claims. The new search has resulted in newly discovered prior art. New grounds of rejection based on the newly discovered prior art follow below.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

Response to Amendment

4. Applicant's arguments have been carefully considered but they were not found persuasive.
5. Applicant argues that a user name is not authentication data as defined by the amended claims and as a result Windows NT does not display authentication indicia on data entry screens. In particular applicant points to the fact that "the authentication data recited in the claims functions as a reverse password" wherein the Windows NT screen comprises data entered by the user to authenticate himself to the computer.

Applicant's arguments have been carefully considered but they were not found persuasive.

The examiner points out that claim language does not disclose applicant's suggested authentication data functioning as a reverse password that, as applicant suggests, would disqualify a user name as an indicia.

6. Applicant suggests that there is no evidence that Windows NT temporarily halts and then restarts execution of programs running when the log-on screen is displayed.

This newly added limitation is addressed in this office action.

7. Claims 1-5, 7-12, 14-15, 17-18 and 20 have been examined.

Claim Objections

8. Claims 14, 15 and 17 are objected to as being dependent on the cancelled claim 13.
9. Claim 18 is objected by virtue of its dependence.
10. For purposes of further examination the claims are treated as dependent on claim 11.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 1-5, 7-12, 14-15, 17-18 and 20 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling.

12. Claims 1 and 11 recite “storing authentication indicia for authenticating data entry screens”. However, the specification does not disclose authenticating data entry screens.

13. Claims 2-5, 7-10, 12, 14-15, 17-18 and 20 are rejected by virtue of their dependence.

Appropriate correction is required.

14. Claim 1 and 11 rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention.

15. Claims 1 and 11 recite “storing authentication indicia for authenticating data entry screens”. The specification does not disclose authenticating data entry screens and it is not clear what authentication a data entry screen represents.

Because of the ambiguity of the limitation, as well as the fact that the recitation “for authenticating data entry screens” addresses the manner in which a claimed limitation is intended to be employed and does not differentiate the claimed invention from a prior art invention if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987), for purposes of further examination only the structural limitations are addressed.

16. “The security module” in claims 1 and 11 lacks antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

17. Claims 1- 5, 9-11 and 17-18 are rejected under 35 U.S.C. 103(a) as obvious over Windows NT as evidenced by Hadfield et al. (Lee Hadfield, Dave Hater, Dave Bixler, "Windows NT Server 4 Security Handbook", 1997, ISBN: 078971213) and NT Workstation Resource Kit (<http://web.archive.org/web/20000306015737/http://is-it-true.org/nt/atips/atips71.shtml>) in view of Foster (U.S. Patent No. 5652890).
18. As per claims 1-5 Windows NT stores authentication indicia for authentication data entry screens to a user in a memory of the computing device (names and password listed in the user accounts database (SAM), (Hadfield, pg. 81), implements receiving a command to execute a password-protected secure function (Hadfield, pg. 81), prompting the user to enter a password associated with the secure function by displaying a data entry screen containing the authentication indicia responsive to receiving the command (Hadfield, pg. 81 and NT Workstation, Resource Kit, § 1) and executing the password-protected programs after the password entry screen is removed from the display (Hadfield, pg. 81). Windows NT also includes a security module (Windows NT Security Subsystem, Hadfield, pg. 75) that stores the authentication indicia that is obtained from a user (Hadfield, col. 75 and 79) but temporarily halting execution of programs not needed by the security module while the data entry screen is displayed and restarting halted programs after the password entry screen is removed from the display is not explicitly disclosed.

Foster discloses processing a function that is executed after a program not needed for the execution of the function is halted, and restarting the halted program after the function is completed (col. 3 lines 31-36 and 49 lines 48-63).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to temporarily halt execution of programs not needed by the security module and restarting halted programs after the security module completes the function. One of ordinary skill in the art would have been motivated to temporarily halt execution of programs not needed by the security module and restarting halted programs after the security module completes the function in order to prevent others from examining information (used in the authentication process) without exiting the currently ran application programs.

Although neither Windows NT nor Foster disclose removing the data entry screen the limitation is implicit: the display password entry screens are removed upon successful entry of a password in order not to block out a regular user session screen.

19. As per claim 11 the processor working in the authentication mode reads on a secure processor.

20. As per claims 9-10 and 17-18 Windows NT and Foster do not explicitly teach using tables: a status table storing entries of currently executing programs with an associated status indication and an alternate status table storing entries of programs needed by the security module utilized by operating system (OS) programs during

the authentication process. Windows NT and Foster also do not teach changing the settings of the status table.

Official Notice is taken that it is old and well-known practice to configure OS to keep track of all processes (and their status) including OS programs needed by the utilized during the authentication process (e.g. ACE) as well as currently running programs (e.g. drivers). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to configure OS to keep track of all processes given benefit of automatic management of a computer operation. Similarly, using tables to keep track of data and keeping track of the current status of the table entries is old and well-known practice in computing. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use tables: a status table storing entries of currently executing programs with an associated status indication and an alternate status table storing entries of programs needed by the security module utilized by operating system (OS) programs during the authentication process given the benefit of a quick and easy access to the desired information.

21. Claims 7-8 and 14-15 are rejected under 35 U.S.C. 103(a) as obvious over Windows NT as evidenced by Hadfield et al. (Lee Hadfield, Dave Hater, Dave Bixler, "Windows NT Server 4 Security Handbook", 1997, ISBN: 078971213) and NT Workstation Resource Kit (<http://web.archive.org/web/20000306015737/http://is-it-true.org/nt/atips/atips71.shtml>) in view of Foster (U.S. Patent No. 5652890) and

further in view of Pfleeger (Charles P. Pfleeger, "Security in computing", 2nd edition, 1996, ISBN: 0133374866).

The secure processor halting execution of programs has been discussed above. Windows NT in view of Foster do not explicitly teach inhibiting an operating system from responding to interrupts not associated with the secure processor and from context-switching during the authentication process (while the data entry screen is displayed).

Pfleeger warns about Trojan horse attacks that intercepts authenticated data and as a prevention mechanism Pfleeger suggests halting any running process in the processing terminal during an authentication process (Pfleeger, Impersonation of Login, pg. 263).

Thus, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to inhibit an operating system from responding to interrupts not associated with the secure processor and from context-switching while the data entry screen is displayed (during the authentication process). One of ordinary skill in the art would have been motivated to inhibit an operating system from responding to interrupts not associated with the secure processor and from context-switching while the data entry screen is displayed in order to provide protection to Trojan horse attacks.

22. Claims 12 and 20 are rejected under 35 U.S.C. 103(a) as obvious over Windows NT as evidenced by Hadfield et al. (Lee Hadfield, Dave Hater, Dave Bixler, "Windows NT Server 4 Security Handbook", 1997, ISBN: 078971213) and NT Workstation

Resource Kit (<http://web.archive.org/web/20000306015737/http://is-it-true.org/nt/atips/atips71.shtml>) in view of Foster (U.S. Patent No. 5652890) and further in view of Steinberg (U.S. Pub. No. 20030159042).

Windows NT in view of Foster teach the secure processor (inherently using memory) to perform the authentication method as discussed above.

Windows NT in view of Foster do not teach a removable security module comprising a smart card and containing the secure processor and the memory.

Steinberg teaches a removable security module comprising a smart card that contains a secure processor and memory (Steinberg, Abstract and [0017]).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement the secure processor and the memory as taught by Windows NT in the security module comprising a smart card as taught by Steinberg. One of ordinary skill in the art would have been motivated to implement the secure processor and the memory in the security module comprising a smart card in order to customize the security module for a particular user.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

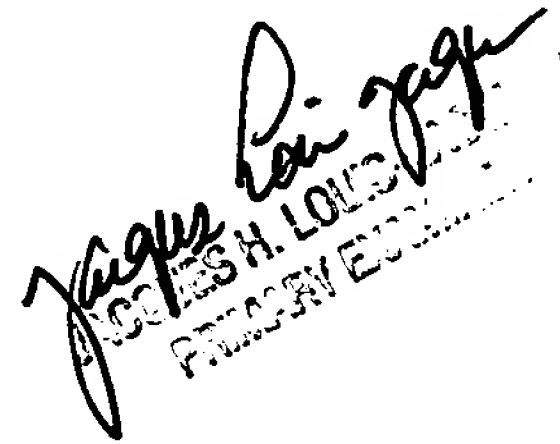
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is (571) 272-3840. The examiner can normally be reached Monday through Thursday from 9:00 a.m. to 4:00 p.m. and alternate Fridays from 9:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis Jacques can be reached on (571) 272-6962. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


4/6/6


JACQUES H. LOISEL
PATENT EXAMINER